

CORRES CONTROL  
OUTGOING LTR NO

DOE ORDER# 5400.1

25 RF 00341

## EG&G ROCKY FLATS

EG&G ROCKY FLATS, INC

ROCKY FLATS PLANT P O BOX 464 GOLDEN COLORADO 80402 0464 • (303) 966 7000

January 11, 1995

95-RF-00349

Kurt Muenchow  
Environmental Restoration Division  
DOE, RFFO

OPERABLE UNIT 5, WOMAN CREEK PRIORITY DRAINAGE MEETING MINUTES - CAB-005-95

Action Forward meeting minutes to the Environmental Protection Agency (EPA) and the Colorado Department of Public Health and Environment (CDPHE) and assist with obtaining written guidance to proceed with the Presumptive Remedy Approach to the Original Landfill

The meeting minutes from the December 19, 1994, meeting (Subject Discussion on the justification of the Presumptive Remedy approach for the Original Landfill (IHSS 115/196)) are enclosed for transmittal to the EPA and CDPHE

At the conclusion of the meeting, Mr Joe Schieffelin of CDPHE, requested two weeks to review his meeting notes taken at the meeting prior to giving approval to proceed with this approach Please request written approval from the agencies to proceed with this approach

If I can provide any additional information, please call me at 966-9100

CAB

Carol A Bicher  
Operable Unit No 5 Closure  
Environmental Restoration Program Division

CAB cb

Orig and 1 cc - K Muenchow

Enclosure  
As Stated

DIST	TR	ENC
AMARAL ME		
BURLINGAME A H		
BUSBY W S		
BRANCH D B		
CARNIVAL G J		
DAVIS J G		
FERRERA D W		
FRAY R E		
GEIS J A		
GLOVER W S		
GOLAN P M		
HANNI B J		
HARMAN L K		
HEALY T J		
HEDAHL T		
HILBIG J G		
HUTCHINS N M		
JACKSON D T		
KELL R E		
KUESTER A W		
MARX G E		
MCDONALD M M		
MCKENNA F G		
MONTROSE J K		
MORGAN R V		
POTTER G L		
PIZZUTO V M		
RISING T L		
SANDLIN N B		
SCHWARTZ J K		
SETLOCK G H		
STEWART D L		
STIGER S G		
TOBIN P M		
VOORHEIS G M		
WILSON J M		
C. A. BICHER	✓	✓
B. M. CYRIL	✓	✓
M. L. HOGG	✓	✓
J. K. HOPKINS	✓	✓
T. O'DONNELL	✓	✓
R. L. RANDALL	✓	✓
CORRES CONTROL	X	X
ADMN RECORD/080	✓	✓
TRAFFIC		
PATS/T130G		

### CLASSIFICATION

UCNI	
UNCLASSIFIED	✓
CONFIDENTIAL	
SECRET	

### AUTHORIZED CLASSIFIER

SIGNATURE  
DOCU INT CLASSIFICATION  
REVIEW WAIVER PER  
CLASSIFICATION OFFICE

N REPLY TO RFP CC NO

### ACTION ITEM STATUS

3 PARTIAL/OPEN  
✓ CLOSED  
TR APPROVALS

ORIG & TYPIST INITIALS

A-0005-000660

**Meeting Date/Time** December 19, 1994/1300

**Meeting Location** EG&G Rocky Flats, Interlocken Facility

**Meeting Subject** Presumptive Remedy Approach for IHSS 115/196 compared to other remedial alternatives

<b>Attendees</b>	<b><u>Name</u></b>	<b><u>Affiliation</u></b>
	Carol Bicher	EG&G
	Robert Cygnarowicz	EG&G
	Judy Flook	RUST
	Mary Lee Hogg	ICF Kaiser
	Scott Hollowell	EG&G
	John Hopkins	EG&G
	Kent Krumvieda	RUST
	Bonnie Lavelle	EPA
	Ed Mast	EG&G
	Dave Moody	LANL
	Kurt Muenchow	DOE RFFO
	Tim O'Rourke	EG&G
	Roberta Sato	Metcalf & Eddy
	Joe Schieffelin	CDPHE
	Regina Slater	DOE RFFO
	Carl Spreng	CDPHE
	Mark Wood	EG&G
	Mark Yaskanin	RUST

Copies of materials that were handed out during this meeting are attached [Attachment 2]

**Introduction** - R Cygnarowicz restated the purpose of this meeting and called for introductions

**A Screening Process**

**R Cygnarowicz** - Presented the CERCLA screening criteria for conducting alternatives screening under a focused feasibility study. The three criteria are Effectiveness, Implementability, and Cost.

**B Screening Results**

**R Cygnarowicz** - Discussed three remedial alternatives considered for closure of IHSSs 115/196. These alternatives are

- Excavate and dispose onsite

- Excavate, solidify, and dispose offsite
- Containment in place (Presumptive Remedy)

## **C Effectiveness Criteria**

**R Cygnarowicz** - Presented the Effectiveness Criteria screening process. The primary consideration is protection, which addresses long-term risk to Human Health and Environment, cleanup risk, time until cleanup is achieved, regulatory compliance, reliability, and residual risk. The second consideration addresses the reduction of toxicity, mobility, and volume (TMV). A third criteria, the use of alternatives to land disposal, is not applicable to the three remedial alternatives considered for closure of IHSS 115/196 because all three involve land disposal.

## **D Implementability**

**R Cygnarowicz** - Presented the implementability screening criteria. Technical feasibility, resource availability, and administrative feasibility are the primary considerations under this criteria.

## **E Cost**

**R Cygnarowicz** - Discussed how relative cost effectiveness is used as an evaluation criteria. Cost effectiveness evaluation is comprised of capital and operation and maintenance costs.

**B Lavelle** - Questioned if cost is compared to risk, as in a cost per unit risk reduction.

**R Cygnarowicz** - Discussed that cost effectiveness analysis examines the cost of the project over roughly 30 years, i.e., present worth analysis. A cost per unit risk reduction could be examined under the "formal" Detailed Screening of Alternatives (DAA), also known as Technical Memorandum Two (TM2). This is used more as a qualitative ranking, since under CERCLA, cost effectiveness is usually used as a "tie-breaker" when two alternatives rank equally with respect to effectiveness and implementability.

## **F Suitability Ranking - Effectiveness**

**R Cygnarowicz** - Stated that for the purpose of ranking the effectiveness of each alternative the following uniform ranking system is used:

- L = Low Effectiveness
- M = Medium Effectiveness
- H = High Effectiveness

Proceeded to create chart of rankings and asked for open discussion of rankings.

## **1 Alternative #1 - Excavate and Dispose in Onsite Cell**

**R Cygnarowicz** - Stated that the excavated waste would be disposed in an approved RCRA cell with an unknown location onsite

Effectiveness Criteria	Alternative #1
Long-term Risk	M/H
Cleanup Risk	L
Length of Time	LL
Regulatory Compliance	H
Reliability	H
Residual Risk	M
Reduction of TMV	M

**Overall Effectiveness Rating = Moderate**

**J Schieffelin** - Questioned why a moderate rating was given to reduction of TMV

**R Cygnarowicz** - Stated that the screening process typically reserves high TMV ratings to alternatives that involve destruction of contaminants such as incineration, UV oxidation, etc

**B Lavelle** - Asked if we have enough characterization data from this site to evaluate long-term risk or short-term risk

**J Hopkins** - Stated that compared to the 48th Street and Holly Landfill in Commerce City and Lowery Landfill, the Original Landfill (IHSS 115/196) would pose a similar potential risk to the immediate area CDPHE and EPA approved containment in place because of the risk to the public associated with moving the waste

**M L Hogg** - Agrees with J Hopkins that there is sufficient data to evaluate risk

**R Cygnarowicz** - Stated that by examining the above ratings, we could give Alt #1 an overall effectiveness rating of Moderate

**2 Alternative #2 - Excavate, Solidify, Dispose Offsite**

**R Cygnarowicz** - Continued to create chart of rankings to compare various alternatives

Effectiveness Criteria	Alternative #2
Long-term Risk	M/H
Cleanup Risk	LL
Length of Time	M
Regulatory Compliance	H
Reliability	H
Residual Risk	M
Reduction	M

**Overall Effectiveness Rating = Moderate**

**J Schieffelin** - Questioned why long-term risk received a moderate ranking

**M Yaskanin** - Stated that we would still have legal ownership of waste

**J Schieffelin** - Questioned why this category would receive a high effectiveness rating

**M Yaskanin** - Stated that we would have to reduce TMV to get a high rating

**J Schieffelin** - Stated that shipping to an offsite cell is probably the best solution for reducing the toxicity at RFETS

**B Lavelle** - Stated that the cleanup risk was higher due to the transportation of waste, thus resulting in a lower effectiveness rating. Questioned the need for a permit for containment cell if we are working under CERCLA

**J Schieffelin** - Stated that a permit would probably not be required. You could call the landfill material "remediation waste" and do a CAMU with a containment cell

**B Lavelle** - Questioned if cell must be located onsite

**J Schieffelin** - Stated that yes, it would have to be located onsite to eliminate administrative problems. Indicated that public acceptance will be a problem, but not insurmountable. Referenced lack of comments on Solar Ponds CAMU

**C Bicher** - Asked where we could put an onsite cell

**T O'Rourke** - Stated OU11 would be a good location. The new landfill did not consider this location because it is an OU. The new landfill has some room, but groundwater flows toward the Rock Creek drainage

**J Schieffelin** - Stated that Envirocare could take some of the waste, but they may have problems with capacity and priority of acceptance

**B Lavelle** - Questioned if CAMU would shorten time to closure

**T O'Rourke** - Questioned if Jefferson County Certificate of Designation (CD) requirements would be applicable. Also questioned the applicability of NEPA requirements

**J Schieffelin** - Stated that CERCLA would most likely cover NEPA requirements and that a certificate of designation would likely not be required

**B Lavelle** - Agreed that NEPA should not be required but that this decision would be up to DOE

**M Hogg** - Questioned if the Prebles Jumping Mouse habitat would call for an

## Environmental Impact Statement

K Muenchow - The mouse habitat mitigation will be addressed either way

### **Alternative #3 - Landfill Presumptive Remedy**

R Cygnarowicz - Stated that this alternative involves containment in place. Effectiveness of this alternative could change based on geotechnical data that will become available in early 1995

<b>Effectiveness Criteria</b>	<b>Alternative #3</b>
Long-term Risk	M
Cleanup Risk	H
Length of Time	H
Regulatory Compliance	H
Reliability	H
Residual Risk	M
Reduction	M

### **Overall Effectiveness Rating - High**

T O'Rourke - Asked why effectiveness, with respect to long-term risk, is High

R Cygnarowicz - Stated that since the bottom of the landfill would not be lined/contained, the effectiveness rating is Moderate

### **G Suitability Ranking - Implementability**

R Cygnarowicz - Presented chart for implementability/evaluation. Filled in chart for Alternatives #1, #2, and #3 as was done with effectiveness criteria. Results are as follows

	Alternative #1	Alternative #2	Alternative #3
Constructability	M	H	H
Maintenance	H	H	H
Performance Goals	H	H	H
Demonstrated Performance	?	?	H
Necessary Equipment, Materials, Personnel	H	H	H
Post-remedial Site Controls	H	H	H
Coordination with Agencies	M	M	M/H
Approvals and Permits	L	M	M/H
Public Acceptance	M/L	L	M
<b>Overall Implementability Rating</b>	<b>M</b>	<b>M</b>	<b>H</b>

**T O'Rourke** - Stated that new cells at RFETS have a volume of approximately 100,000 cubic yards

**B Lavelle** - Questioned if any restrictions would be imposed on the types of wastes that would be accepted at an onsite cell

**J Schieffelin** - Stated that we might want to limit acceptance to Contaminated cells

**E Mast** - Questioned if the cell could accept other media

**J Schieffelin** - Stated that it might have to be limited to contaminated media below a certain radiation level Politically and publicly it would be a debate between calling it remediation waste or low-level contaminated waste

**M Wood** - Stated that we would also have to address the As Low As Reasonably Achievable (ALARA) concerns

**K Muenchow** - Stated that waste acceptance into cell would be limited by the "no rad added" policy

**T O'Rourke** - Stated that most of these concerns are covered by the Rad Con manual and CFR 835, but he didn't know how these guidelines would apply to excavation

**R Cygnarowicz** - Questioned if this takes us back to just considering offsite disposal

**J Schieffelin** - Stated that onsite disposal should be OK, and that we would have little control over offsite disposal. Indicated that WIPP is continually being postponed and NTS is still closed. Questioned the high rating associated with bringing in fill material and a moderate rating for excavating.

**E Mast & M Wood** - Noted that the high ratings are a result of bringing in "clean" fill as opposed to taking out potentially contaminated waste that would have to be screened and monitored for radioactivity.

**J Schieffelin** - Asked whether Alternative #3 includes the use of an impermeable soil cover, or if we are proposing something similar to a RCRA cap.

**M Yaskanin** - Stated that the presumptive remedy looks at the alternative of containment, and treats that alternative as a focused feasibility study. The FS Team will look at all containment options and will not eliminate individual cap/covers until the DAA stage.

**R Cygnarowicz** - Discussed preliminary information from current geologic investigations. Preliminary information suggests that the inferred fault that has been thought to pass through the Ash Pits area may actually lie below IHSS 115/196.

**E Mast** - Stated that the fault is only inferred.

**K Muenchow** - Stated that at this time we don't know enough about the groundwater flow in this area to know the impacts of a fault.

## **H Conclusions**

**R Cygnarowicz** - Stated we could continue to examine the landfill under the Presumptive Remedy guidance, or we could perform a CMS/FS. Indicated that the preferred path at this time is the Presumptive Remedy. However, we would continue to investigate all alternatives. Asked for agency preferences on which way to proceed.

**K Muenchow** - Discussed DOE RFFO accelerated actions program, and how landfill might qualify for expedited closure.

**J Schieffelin** - Requested two weeks to think about closure options and give feedback on effectiveness, implementability, and relative cost ratings. Requested that qualitative rating be included in Presumptive Remedy Report. Stated that effectiveness ratings don't need to be agreed upon if changes won't affect overall effectiveness rating comparison.

**R Cygnarowicz** - Stated that this approach is acceptable, and that the next report will



include a screening level comparison of the three remedial alternatives considered here for the landfill

**J Schieffelin** - Stated that he will need to talk to his supervisor before he can make final decision on Presumptive Remedy

**B Lavelle** - Stated that EPA is willing to pursue the Presumptive Remedy approach

**I Cost Effectiveness**

**R Cygnarowicz** - Concluded the screening exercise with a discussion of relative cost effectiveness and the resulting overall ratings

Alternative #1      Low Cost Effectiveness  
Alternative #2      Low Cost Effectiveness  
Alternative #3      High Cost Effectiveness

**Summary of Alternative Screening**

Remedial Alternative	Effectiveness	Implementability	Cost Effectiveness
Excavate/ Dispose Onsite	M	M	L
Excavate/ Solidify/Dispose Offsite	M	M	L
Containment in Place	H	H	H

# INTRODUCTION

## OPERABLE UNIT 5 CMS/FS

- Purpose: To compare and contrast the presumptive remedy to other remedial alternatives
- Screening Process: CERCLA criteria
  - Effectiveness
  - Implementability
  - Cost
- Screening Results
  - Excavate and dispose onsite
  - Excavate, solidify, and dispose offsite
  - Containment in place (presumptive remedy)

# EFFECTIVENESS CRITERIA

- Protection:
  - Long-term risk (human health and environment)
  - Cleanup risk
  - Length of time before protection is achieved
  - Regulatory compliance
  - Reliability over life of project
  - Residual risk
- Reduction of toxicity, mobility, and volume
- *Use of alternatives to land disposal*

# IMPLEMENTABILITY

- Technical Feasibility
  - Construction of remedial alternative
  - Maintenance of operation
  - Performance goals
  - Demonstrated performance
- Availability
  - Necessary equipment, materials, personnel
  - *TSD capacity*
  - Post-remedial site controls
- Administrative Feasibility
  - Coordination with agencies
  - Approvals and permits
  - Public acceptance

# COST EFFECTIVENESS

- Capital cost
- Operation and maintenance

# IHSS 115/196 OPTIONS

## SUITABILITY RANKING

REMEDIAL ALTERNATIVE	EFFECTIVE- NESS	IMPLEMENT- ABILITY	COST EFFECTIVE- NESS	OVERALL
EXCAVATE/ DISPOSE ONSITE	m	m	L	m
EXCAVATE/ DISPOSE OFFSITE	m	m	L	m
CONTAINMENT IN PLACE	H	H	H	H

## EFFECTIVENESS

ONSITE OFFSITE

ALT #1

#2

#3

Long-Term Risk

Cleanup Risk\*

Length of Time

Reg Compliance

Reliability

Residual Risk

Red of TML

Overall

M/H

L

L

H

H

M

M

M

M/H

LL  
(transient)

M

H

H

M

M

M

M

H

H

H

H

M

M

H

## IMPLEMENTABILITY

ALT #1

#2

#3

Constructability

Maintenance/Operation

Performance Goals

Demonstrated Perf

Necessary E, M, P

Post-Rem Site Controls

Coordination w/ Agencies

Approvals + Permits

Public Acceptance

Overall

M

H

H

?

H

H

M

M

W/M

M

M

H

H

?

H

H

M

L

M

M

H

H

H

H

H

H

H

H

M

H

<u>NAME</u>	<u>ORGANIZATION</u>	<u>PHONE</u>
Kurt Marchow	TD5	966-2124
Carl Spreng	CDPHE	692-3353
Regina Smith	DOE/ER	725-2
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JUDY FLOOKE	RUST	469-6660
KENT KRUMVIGDA	RUST	469-6660
Mark Yaskanig	RUST	694-6660
Mark Wood	EG&G Group 2	8784
Carol Bicher	EG&G OUSG#7	966-9100
Scott Hollowell	EG&G OUSG#7	966-8748
Ed Most	EG&G OUSG#7	8589
John Hopkins	EG&G	8636
Dave Moody	LANL/RF	966-8537
Mary Lee Hagg	ICF-K for EG&G	966-8716
Joe Schieffelin	CDPHE	692-3353
Tim O'Rourke	EG&G/LEAPD	8577
Robertta Sato	Metcalf & Eddy	446-2202
Bennie LUELLIE	EP4	294-1667



Dec 16, 1994 - Training - Job Specific Mtg

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Dec 19, 1994 - Presumptive Remedy Meeting

(2) Purpose - Discuss this approach as compared to other remedial alternatives

(1) Introductions

(3) Screening Process CERCLA criteria  
effectiveness, implementability, cost

(4) Screening Results

excavate & dispose onsite

excavate, solidify & dispose offsite

containment in place (pres remedy)

(5) Effectiveness criteria

(a) Protection: longterm risk (HH & Env)

cleanup risk, time, compliance,  
reliability, residual risk

(b) Reduction of toxicity, mobility, & volume

(7) Use of alternatives to land disposal  
not applicable

(6) Implementability

(a) Tech. Feasibility

(b) Availability

(c) Admin Feasibility

(7) Cost - capital cost & oper & mnce

Dec 19, 1994 Mtg cont

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(7) Cost continued.

Bonnie - is cost ~~there~~ compare to risk.  
as a unit risk (per unit risk reduction)

Caggy - cost of prop. over 30 year

- prevent worth exercise

- CERCLA - the breaker

- will get into in the DNA

under TM2, this is a

qualitative overview

(8) Sustainability Ranking

- Alt #1 Excavate Deep Smelter in

an approved cell - location

unknown

Effectiveness - long term risk

length of time LL moderate

reg. compliance H effectiveness

regional risk H

need of toxicity M

moderate vol M

Vol - why a moderate to reduction of TMV

Caggy - CERCLA typically has # 107 incineration

Bonnie - Do we have enough char data

from this site to evaluate long term risk

John - compared to 48th & Convery

per risk to innard area

State/TEPA decided to leave in

place because of risk to public

Attachment 4

Dec 19, 1994 Mtg cont

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Marilee - agrees w/ John that there

is sufficient data

- Alt #2 Excavate Deep Smelter

concurrent risk M H

Bonnie - this is

a higher risk

because of transp.

length of time M

reg. compliance H

reliability H

regional risk M

need of tox, mod M

# vol M

effectiveness

ranking M

Bonnie do we need a permit

if CERCLA

Vol - probably not, you could call it

do a CAMU w/ a cell

Bonnie - must we on sight? yes,

Vol - would eliminate a lot of

Asm problem

- public acceptance, will be a

problem but not in surrounding

has been surprised how little the

comments on solar ponds

Vol - why?

Caggy -

Vol - not

still have

ownership of

waste

Vol - how would

you get a H

Rust - reduces

toxicity

Rust - have to look

at boundaries

Golden, or US is

Vol - it is pro

the best we

could hope for

to ship to an

offsite cell

Dec 19, 1994 NTG continued

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CL - where would we put a cell  
 Tim - cell is a good location - look into an air

- New landfill has room but is  
 accessible to rock creek

- design segments are beyond Subtitle D  
 waste

Vol - Enbridge could take some, but  
 capacity / priority

Bonnie - would Camu. shorten time?

Tim - what about Veevo CD segments

- NEPA

Vol - probably CERCLA will ~~have~~  
 cover a CD will not be negd

- OUA <sup>disposal</sup> EA

Marilee - the nice habitat map

Call for an EIS

Kurt - habitat will be addressed / integrated  
 whether way you go

Bonnie - NEPA should not be required

but DOE's call

Vol - OUA BREA Road

## Attachment 4

Dec 19, 1994 NTG continued

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## - Alternative #3 Pre's Remedy

## Effectiveness

long-term risk m  
 clean up work H  
 long-term H  
 red compl H  
 reliability H  
 residual risk m  
 red of TMD m

Overall H

contaminant in place - effectiveness

~~we~~ could change based on add'l

data that will be available in Jan. 95

Tim why cost long term not high

Ciggy - the bottom of the landfill

is not lined / contained

## b) Implementability

	Alt 1	Alt 2	Preslem
Constructability	m	H	H
inter & open	H	H	H
perf goals	H	H	H
ammon perf	H	H	H
necessary Emp	H	H	H
post rem site controls	H	H	H
coord w/ agencies	m	m	m
approvals & permits	L	H	m
public acceptance	M/K	H	m
overall	m	m	m

Bonnie - is

Constructability based on site-wide cell

or

Ciggy -

Vol -

Dec. 19, 1994 mty continued,

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Tim - new cells  $\approx 100^5$  cf

- cell has but precedence w/

Ciggy - const could go to a high

Bonne - any restriction on type of wastes

Joe - no reason but should limit it  
to contaminated soilEd - what about other media  
contaminated

Joe - may be limit to media

below a rad level.

- politically &amp; public scale

remediation waste vs low level

mark - contaminated waste

Kurt - ~~state~~ no rad addedTim - Rad con manual CFR  $\approx$  835

don't know how it plays into

excavation

Ciggy - offsite disposal

Joe - enviro should be OK, no control

over offsite &amp; everytime you

turn around WIPP is postponed.

NTs is still closed

Joe - you have a high for bringing

mbl &amp; Moderate for br excavating

Mark - bringing in clean fill taking  
out waste that will be screened  
& monitored (rad)

Dec. 19, 1994 mty continued,

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Joe.

Kurt - Pres Remedy looks at contamination  
(focused year study) & doesn't

ultimately cover us cap w/

Joe - It's not the volume, it is

what is in the volume

Tim - don't want to get into remote loc

Kurt - stop work, potential releases  
(wounds, rain)Ciggy - ~~inferred~~ vault line through  
the ash pits, maybe the

landfill

Ed - it is only inferred

Kurt - don't know enough about

how flow to know the impact  
of the vault

## ⑨ Summary Conclusions

Ciggy - <sup>we</sup> could continue examine

the landfill through Problem

(preferred) or could do a

AMS/FS, which would

set precedences

- down the road, want to dump  
things but

Dec 19, 1994 mtg cont

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Ciggy continued

need to know now which way to proceed

Kurt - accelerated

Voe - give us two weeks to think & give feedback, - on H's & M's

- include qualitative write up in Pres Remedy.

- H & M's don't have to be agreed upon if it doesn't change outcomes.

Ciggy - we can do that. Text will detail the important aspects.

Voe - need to talk to Gary before final decision of doing a pres remedy

Bonnie - EPA ~~ag~~ <sup>ag</sup> ~~ag~~ <sup>ag</sup> go forward w/ Pres Rem

(10) Cost

AH1	Low	effectiveness
AH2	Low	" "
AH3	High	" "

specific examples cited,

Bonnie Lavelle & Bonnie Lavelle

Kurt Muenchow & Kurt Muenchow

Voe Schreffelin declined signature